

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: August 14, 2002, 10:50:38 ; Search time 75.95 Seconds

(without alignments)
45.336 Million cell updates/sec

Title: US-09-785-059-2

Perfect score: 148
Sequence: 1 KVIKRVQACRAIRHIVRRIRROGLRRIRRV 31Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 747574 seqs, 111073796 residues

Total number of hits satisfying chosen parameters: 747574

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%
Listing first 45 summaries

Database :

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Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	122	82.4	28	19	AAW47769
2	122	82.4	28	20	AAW47769
3	117	79.1	28	19	AAW47623
4	117	79.1	28	19	AAW47628
5	117	79.1	28	19	AAW47633
6	117	79.1	28	20	AAW47633
7	117	79.1	28	20	AAW47633
8	117	79.1	28	20	AAW47633
9	112	75.7	28	19	AAW47614
10	112	75.7	28	20	AAW47614
11	112	75.7	338	22	AAU14026

12	112	75.7	345	21	AAW4536	HIV-1 isolate LAI
13	112	75.7	345	22	AAW4536	Amino acid sequenc
14	112	75.7	420	15	AAW43785	Translation of HIV
15	112	75.7	853	19	AAW43066	HIV-1 gp120 protei
16	112	75.7	856	14	AAW41025	Selectively deglyc
17	112	75.7	856	14	AAW41026	Selectively deglyc
18	112	75.7	856	14	AAW41027	Selectively deglyc
19	112	75.7	856	14	AAW41028	Selectively deglyc
20	112	75.7	856	14	AAW41029	Selectively deglyc
21	112	75.7	856	14	AAW41030	Selectively deglyc
22	112	75.7	856	14	AAW41031	Selectively deglyc
23	112	75.7	856	14	AAW41032	Selectively deglyc
24	112	75.7	856	21	AAW47072	Wild type HIV-1 HA
25	112	75.7	856	22	AAW45697	HIV-1/IIIB env clo
26	112	75.7	856	19	AAW43067	HIV-1 gp120 protei
27	112	75.7	863	13	AAW48955	Non-cleavable, sol
28	112	75.7	865	16	AAW43909	HIV-1 envelope pol
29	112	75.7	868	7	AAW60063	HIV virus env gene
30	112	75.7	868	7	AAW60422	Sequence of LAV vi
31	112	75.7	901	8	AAW7065	Sequence encoded b
32	108	73.0	28	19	AAW47624	Antimicrobial pept
33	108	73.0	28	19	AAW47634	Antimicrobial pept
34	108	73.0	28	20	AAW47635	Antimicrobial pept
35	108	73.0	28	20	AAW47635	Antimicrobial pept
36	107	72.3	28	19	AAW47625	Antimicrobial pept
37	107	72.3	28	19	AAW47771	Antimicrobial pept
38	107	72.3	28	19	AAW47772	Antimicrobial pept
39	107	72.3	28	19	AAW47635	Antimicrobial pept
40	107	72.3	28	20	AAW432705	Antimicrobial pept
41	107	72.3	28	20	AAW432706	Antimicrobial pept
42	107	72.3	28	20	AAW432561	Antimicrobial pept
43	107	72.3	412	11	AAW5095	Synthetic HIV-1 tr
44	107	72.3	704	11	AAW5095	PSD302.PEP HIV-1 g
45	107	72.3	704	11	AAW5095	

ALIGNMENTS

RESULT	1	
AAW47769		
ID	AAW47769	standard; peptide: 28 AA.
XX		
AC	AAW47769;	
XX		
DT	26-MAY-1998	(first entry)
XX		
DE	Antimicrobial peptide LLPI analogue.	
XX		
KW	Antimicrobial; transmembrane protein; TM; lentivirus lytic peptide;	
KW	LLPI; amphipathic; antibacterial; antifungal; antiviral; antiprotozoal.	
XX		
OS	Synthetic.	
OS	Human immunodeficiency virus.	
XX		
PN	US5714577-A.	
XX		
PD	03-FEB-1998.	
XX		
PF	24-JAN-1997;	97US-0786748.
XX		
PR	26-JAN-1996;	96US-0010634.
XX		
PA	24-JAN-1997;	97US-0786748.
XX		
PI	(UYP1-) UNIV PITTSBURGH.	
XX		
PI	Mietzner TA, Montelaro RC, Tencza SB;	
XX		
DR	WPI; 1998-158352/14.	
XX		
PT	Retroviral TM peptides - useful as antibacterial agents	
XX		
PS	Disclosure; Column 19; 59pp; English.	

XX The invention relates to new antimicrobial peptides which correspond to
 CC amino acid sequences in the transmembrane proteins of lentiviruses, in
 CC particular HIV and SIV. These peptides comprise arginine rich sequences
 CC which, when modelled for secondary structure, display high
 CC amphipathicity and hydrophobic moment. Also disclosed are structural
 CC and functional analogues and homologues of these peptides which also
 CC display antimicrobial activity. The peptides are highly inhibitory to
 CC microorganisms (bacteria, fungi, viruses and protozoa) but significantly
 CC less toxic to red blood cells and other normal mammalian cells. Activity
 CC is demonstrated against Gram positive and negative bacteria including
 CC *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Enterococcus faecalis* and
 CC *Serratia marcescens*.
 CC The present sequence is one of 169 disclosed specific examples of
 CC the new peptides. It is an analogue of the peptide designated LLP1
 CC (see AAM47614) which is a peptide from the transmembrane protein (gp41)
 CC of HIV strain HXB2R.
 CC
 XX Sequence 28 AA:
 SQ

Query Match 82.4%; Score 122; DB 19; Length 28;
 Best Local Similarity 92.9%; Pred. No. 1.5e-10;
 Matches 26; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 RVIRVQACRAIRHIVRIRIGLRRL 28
 DB 1 RVIRVQACRAIRHIVRIRIGLRRL 28

RESULT 2
 AAY32703
 ID AAY32703 standard; peptide: 28 AA.
 XX
 AC AAY32703;
 XX
 DT 21-OCT-1999 (first entry)
 XX
 DE Antimicrobial peptide LLP1 analogue.
 XX
 KW Antimicrobial peptide; LLP1; SLP-1; LLP2; SLP2A; SLP2B; ELP; infection;
 KW growth inhibitor; microorganism; virus; gene therapy; vector production;
 KW sterilisation.
 XX
 OS Synthetic.
 OS Human immunodeficiency virus type 1.
 XX
 PN US5945507-A.
 XX
 PD 31-AUG-1999.
 XX
 PF 18-SEP-1997; 97US-0932682.
 XX
 PR 26-JAN-1996; 96US-0010634.
 PR 24-JAN-1997; 97US-0786748.
 PR 18-SEP-1997; 97US-0932682.
 XX
 PA (UVP1-) UNIV PITTSBURGH.
 XX
 PI Metzner TA, Montelaro RC, Tencza SB;
 XX
 DR WPI; 1999-508189/42.
 XX
 PT Antimicrobial peptides useful for treating microbial infections
 XX
 PS Disclosure; Column 21; 62pp; English.
 XX
 CC This sequence represents an antimicrobial peptide of the invention, and
 CC is an analogue of the peptide LLP1 (see AAY32549). The peptides can be
 CC used for treating infections caused by *Staphylococcus aureus*,
 CC microorganisms (bacteria, fungi, viruses and protozoa) but significantly
 CC less toxic to red blood cells and other normal mammalian cells. Activity
 CC is demonstrated against Gram positive and negative bacteria including
 CC *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Enterococcus faecalis* and
 CC *Serratia marcescens*, *Escherichia coli*, fungi, protozoa and viruses in
 CC a mammalian host. They can be used to inhibit growth of diverse

CC microorganisms such as bacteria, fungi, protozoa and DNA and RNA viruses
 CC and can be used in tissue culture to inhibit unwanted microbial growth,
 CC particularly for the production of recombinant proteins or vectors for
 CC gene therapy. They can also be used in preventing infections through the
 CC sterilisation of wounds prior to suture and to sterilise surgical
 CC instruments. The unique structure of these antimicrobial peptides
 CC imparts high potency while selectivity is maintained. They are
 CC moderately haemolytic but only lyse red blood cells at high
 CC concentrations unlike melittin, a peptide extracted from bee venom, which
 CC is highly active against bacteria and lyses red blood cells showing
 CC little selectivity. The peptides target a membrane structure which makes
 CC it more difficult for a microorganism to develop a mechanism of
 CC resistance against this type of antibiotic. Their small size makes them
 CC relatively simple to prepare by standard synthetic peptide chemistry.
 CC
 XX Sequence 28 AA:
 SQ

Query Match 82.4%; Score 122; DB 20; Length 28;
 Best Local Similarity 92.9%; Pred. No. 1.5e-10;
 Matches 26; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 RVIRVQACRAIRHIVRIRIGLRRL 28
 DB 1 RVIRVQACRAIRHIVRIRIGLRRL 28

RESULT 3
 AAM47623
 ID AAM47623 standard; peptide: 28 AA.
 XX
 AC AAM47623;
 XX
 DT 26-MAY-1998 (first entry)
 XX
 DE Antimicrobial peptide LLP1 analogue.
 XX
 KW Antimicrobial; transmembrane protein; TM; lentivirus lytic peptide;
 KW LRP; amphipathic; antibacterial; antifungal; antiviral; antiprotozoal.
 XX
 OS Synthetic.
 OS Human immunodeficiency virus.
 XX
 PN US5714577-A.
 XX
 PD 03-FEB-1998.
 XX
 PF 24-JAN-1997; 97US-0786748.
 XX
 PR 26-JAN-1996; 96US-0010634.
 PR 24-JAN-1997; 97US-0786748.
 XX
 PA (UVP1-) UNIV PITTSBURGH.
 XX
 PI Metzner TA, Montelaro RC, Tencza SB;
 XX
 DR WPI; 1998-158352/14.
 XX
 PT Retroviral TM peptides - useful as antibacterial agents
 XX
 PS Disclosure; Column 9; 59pp; English.
 XX
 CC The invention relates to new antimicrobial peptides which correspond to
 CC amino acid sequences in the transmembrane proteins of lentiviruses, in
 CC particular HIV and SIV. These peptides comprise arginine rich sequences
 CC which, when modelled for secondary structure, display high
 CC amphipathicity and hydrophobic moment. Also disclosed are structural
 CC and functional analogues and homologues of these peptides which also
 CC display antimicrobial activity. The peptides are highly inhibitory to
 CC microorganisms (bacteria, fungi, viruses and protozoa) but significantly
 CC less toxic to red blood cells and other normal mammalian cells. Activity
 CC is demonstrated against Gram positive and negative bacteria including
 CC *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Enterococcus faecalis* and

CC Serratia marcescens.
CC The present sequence is one of 169 disclosed specific examples of
CC the new peptides. It is an analogue of the peptide designated LLP1
CC (see AAM47614) which is a peptide from the transmembrane protein (gp41)
CC of HIV strain HXB2R.
XX
SQ Sequence 28 AA;

Query Match 79.1%; Score 117; DB 19; Length 28;
Best Local Similarity 89.3%; Pred. No. 7.8e-10;
Matches 25; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 RVIRVVQACRAIRHIVRIRIGLRRL 28
DB 1 rvirvvgacrairhivririglrll 28

RESULT 4
AAM47628 standard; peptide; 28 AA.
XX
AC AAM47628;
XX
DT 26-MAY-1998 (first entry)
XX
DE Antimicrobial peptide LLP1 analogue.
XX
KW Antimicrobial; transmembrane protein; TM; lentivirus lytic peptide;
XX LLP; amphipathic; antibacterial; antifungal; antiviral; antiprotozoal.
OS Synthetic.
OS Human immunodeficiency virus.
XX
PN US5714577-A.
XX
PD 03-FEB-1998.
XX
PF 24-JAN-1997; 97US-0786748.
XX
PR 26-JAN-1996; 96US-0010634.
XX 24-JAN-1997; 97US-0786748.
XX
PA (UYPI-) UNIV PITTSBURGH.
XX
PI Mietzner TA, Montelaro RC, Tencza SB;
XX WPI; 1998-158352/14.
XX
PT Retroviral TM peptides - useful as antibacterial agents
XX
PS Disclosure; Column 9; 59pp; English.
XX
CC The invention relates to new antimicrobial peptides which correspond to
CC amino acid sequences in the transmembrane proteins of lentiviruses, in
CC particular HIV and SIV. These peptides comprise arginine rich sequences
CC which, when modelled for secondary structure, display high
CC amphipathicity and hydrophobic moment. Also disclosed are structural
CC and functional analogues and homologues of these peptides which also
CC display antimicrobial activity. The peptides are highly inhibitory to
CC microorganisms (bacteria, fungi, viruses and protozoa) but significantly
CC less toxic to red blood cells and other normal mammalian cells. Activity
CC is demonstrated against Gram positive and negative bacteria including
CC pseudomonas aeruginosa, Staphylococcus aureus, Enterococcus faecalis and
CC Serratia marcescens.
CC The present sequence is one of 169 disclosed specific examples of
CC the new peptides. It is an analogue of the peptide designated LLP1
CC (see AAM47614) which is a peptide from the transmembrane protein (gp41)
CC of HIV strain HXB2R.
XX
SQ Sequence 28 AA;

Query Match 79.1%; Score 117; DB 19; Length 28;
Best Local Similarity 89.3%; Pred. No. 7.8e-10;
Matches 25; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 RVIRVVQACRAIRHIVRIRIGLRRL 28
DB 1 rvirvvgacrairhivririglrll 28

RESULT 5
AAM47633 standard; peptide; 28 AA.
XX
AC AAM47633;
XX
DT 26-MAY-1998 (first entry)
XX
DE Antimicrobial peptide LLP1 analogue.
XX
KW Antimicrobial; transmembrane protein; TM; lentivirus lytic peptide;
XX LLP; amphipathic; antibacterial; antifungal; antiviral; antiprotozoal.
OS Synthetic.
OS Human immunodeficiency virus.
XX
PN US5714577-A.
XX
PD 03-FEB-1998.
XX
PF 24-JAN-1997; 97US-0786748.
XX
PR 26-JAN-1996; 96US-0010634.
XX 24-JAN-1997; 97US-0786748.
XX
PA (UYPI-) UNIV PITTSBURGH.
XX
PI Mietzner TA, Montelaro RC, Tencza SB;
XX WPI; 1998-158352/14.
XX
PT Retroviral TM peptides - useful as antibacterial agents
XX
PS Disclosure; Column 9; 59pp; English.
XX
CC The invention relates to new antimicrobial peptides which correspond to
CC amino acid sequences in the transmembrane proteins of lentiviruses, in
CC particular HIV and SIV. These peptides comprise arginine rich sequences
CC which, when modelled for secondary structure, display high
CC amphipathicity and hydrophobic moment. Also disclosed are structural
CC and functional analogues and homologues of these peptides which also
CC display antimicrobial activity. The peptides are highly inhibitory to
CC microorganisms (bacteria, fungi, viruses and protozoa) but significantly
CC less toxic to red blood cells and other normal mammalian cells. Activity
CC is demonstrated against Gram positive and negative bacteria including
CC pseudomonas aeruginosa, Staphylococcus aureus, Enterococcus faecalis and
CC Serratia marcescens.
CC The present sequence is one of 169 disclosed specific examples of
CC the new peptides. It is an analogue of the peptide designated LLP1
CC (see AAM47614) which is a peptide from the transmembrane protein (gp41)
CC of HIV strain HXB2R.
XX
SQ Sequence 28 AA;

Query Match 79.1%; Score 117; DB 19; Length 28;
Best Local Similarity 89.3%; Pred. No. 7.8e-10;
Matches 25; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 RVIRVVQACRAIRHIVRIRIGLRRL 28
DB 1 rvirvvgacrairhivririglrll 28

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RESULT 6
AA32559
ID AAY32559 standard; peptide; 28 AA.
AC AAY32559;
XX
XX
XX 21-OCT-1999 (first entry)
DE Antimicrobial peptide LRP1 analogue.
XX
XX Antimicrobial peptide; LRP1, SLP-1, LRP2, SLP2A, SLP2B; ELP; infection;
KM growth inhibitor; microorganism; virus; gene therapy; vector production;
KW sterilisation.
XX
XX Synthetic.
OS Human immunodeficiency virus type 1.
XX
XX US945507-A.
XX
XX 31-AUG-1999.
XX
XX 18-SEP-1997; 97US-0932682.
XX
XX 26-JAN-1996; 96US-0010634.
PR 24-JAN-1997; 97US-0786748.
PR 18-SEP-1997; 97US-0932682.
XX
XX (UYP1-) UNIV PITTSBURGH.
XX
XX Mletzner TA, Montelaro RC, Tencza SB;
PI WPI; 1999-508189/42.
XX
XX Antimicrobial peptides useful for treating microbial infections
PT Disclosure; Column 9; 62pp; English.
XX
XX This sequence represents an antimicrobial peptide of the invention, and
CC is an analogue of the peptide LRP1 (see AAY32549). The peptides can be
CC used for treating infections caused by Staphylococcus aureus,
CC methicillin resistant S. aureus, Pseudomonas aeruginosa, Enterococcus
CC faecalis, S. marcescens, Escherichia coli, fungi, protozoa and viruses in
CC a mammalian host. They can be used to inhibit growth of diverse
CC microorganisms such as bacteria, fungi, protozoa and DNA and RNA viruses
CC and can be used in tissue culture to inhibit unwanted microbial growth,
CC particularly for the production of recombinant proteins or vectors for
CC gene therapy. They can also be used in preventing infections through the
CC sterilisation of wounds prior to suture and to sterilise surgical
CC instruments. The unique structure of these antimicrobial peptides
CC imparts high potency while selectivity is maintained, they are
CC moderately haemolytic but only lyse red blood cells at high
CC concentrations unlike melittin, a peptide extracted from bee venom, which
CC is highly active against bacteria and lyses red blood cells showing
CC little selectivity. The peptides target a membrane structure which makes
CC it more difficult for a microorganism to develop a mechanism of
CC resistance against this type of antibiotic. Their small size makes them
CC relatively simple to prepare by standard synthetic peptide chemistry.
XX
XX Sequence 28 AA;
SO
Query Match 79.1%; Score 117; DB 20; Length 28;
Best Local Similarity 89.3%; Pred. No. 7.8e-10;
Matches 25; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
OY 1 RVIRVORACRAIRHIVRRIRGRLRL 28
DB 1 RVIRVVGACRAIRHIVRRIRGRLRL 28
RESULT 7
AA32564
ID AAY32564 standard; peptide; 28 AA.
5
```

```
XX
XX AAY32564;
AC
XX
XX 21-OCT-1999 (first entry)
DE Antimicrobial peptide LRP1 analogue.
XX
XX Antimicrobial peptide; LRP1, SLP-1, LRP2, SLP2A, SLP2B; ELP; infection;
KM growth inhibitor; microorganism; virus; gene therapy; vector production;
KW sterilisation.
XX
XX Synthetic.
OS Human immunodeficiency virus type 1.
XX
XX US945507-A.
XX
XX 31-AUG-1999.
XX
XX 18-SEP-1997; 97US-0932682.
XX
XX 26-JAN-1996; 96US-0010634.
PR 24-JAN-1997; 97US-0786748.
PR 18-SEP-1997; 97US-0932682.
XX
XX (UYP1-) UNIV PITTSBURGH.
XX
XX Mletzner TA, Montelaro RC, Tencza SB;
PI WPI; 1999-508189/42.
XX
XX Antimicrobial peptides useful for treating microbial infections
PT Disclosure; Column 9; 62pp; English.
XX
XX This sequence represents an antimicrobial peptide of the invention, and
CC is an analogue of the peptide LRP1 (see AAY32549). The peptides can be
CC used for treating infections caused by Staphylococcus aureus,
CC methicillin resistant S. aureus, Pseudomonas aeruginosa, Enterococcus
CC faecalis, S. marcescens, Escherichia coli, fungi, protozoa and viruses in
CC a mammalian host. They can be used to inhibit growth of diverse
CC microorganisms such as bacteria, fungi, protozoa and DNA and RNA viruses
CC and can be used in tissue culture to inhibit unwanted microbial growth,
CC particularly for the production of recombinant proteins or vectors for
CC gene therapy. They can also be used in preventing infections through the
CC sterilisation of wounds prior to suture and to sterilise surgical
CC instruments. The unique structure of these antimicrobial peptides
CC imparts high potency while selectivity is maintained, they are
CC moderately haemolytic but only lyse red blood cells at high
CC concentrations unlike melittin, a peptide extracted from bee venom, which
CC is highly active against bacteria and lyses red blood cells showing
CC little selectivity. The peptides target a membrane structure which makes
CC it more difficult for a microorganism to develop a mechanism of
CC resistance against this type of antibiotic. Their small size makes them
CC relatively simple to prepare by standard synthetic peptide chemistry.
XX
XX Sequence 28 AA;
SO
Query Match 79.1%; Score 117; DB 20; Length 28;
Best Local Similarity 89.3%; Pred. No. 7.8e-10;
Matches 25; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
OY 1 RVIRVORACRAIRHIVRRIRGRLRL 28
DB 1 RVIRVVGACRAIRHIVRRIRGRLRL 28
RESULT 8
AA32569
ID AAY32569 standard; peptide; 28 AA.
AC AAY32569;
XX
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PF 18-SEP-1997: 97US-0932682.
XX
PR 26-JAN-1996: 96US-0010634.
PR 24-JAN-1997: 97US-0786748.
PR 18-SEP-1997: 97US-0932682.
XX
PA (UVP1-) UNIV PITTSBURGH.
XX
PI Metzner TA, Montelaro RC, Tencza SB:
XX
DR WPI; 1999-508189/42.
XX
PT Antimicrobial peptides useful for treating microbial infections
XX
PS Example 1; Column 5; 62pp; English.
XX
CC This sequence represents the antimicrobial peptide ILPI, and was used
CC to design the peptide analogues of the invention. The peptides can be
CC used for treating infections caused by Staphylococcus aureus, methicillin
CC resistant S. aureus, Pseudomonas aeruginosa, Enterococcus faecalis,
CC S. marcescens, Escherichia coli, fungi, protozoa and viruses in a
CC mammalian host. They can be used to inhibit growth of diverse
CC microorganisms such as bacteria, fungi, protozoa and DNA and RNA viruses
CC and can be used in tissue culture to inhibit unwanted microbial growth,
CC particularly for the production of recombinant proteins or vectors for
CC gene therapy. They can also be used in preventing infections through the
CC sterilisation of wounds prior to suture and to sterilise surgical
CC instruments. The unique structure of these antimicrobial peptides imparts
CC high potency while selectivity is maintained, they are moderately
CC haemolytic but only lyse red blood cells at high concentrations unlike
CC melittin, a peptide extracted from bee venom, which is highly active
CC against bacteria and lyses red blood cells showing little selectivity.
CC The peptides target a membrane structure which makes it more difficult
CC for a microorganism to develop a mechanism of resistance against this
CC type of antibiotic. Their small size makes them relatively simple to
CC prepare by standard synthetic peptide chemistry.
XX
SQ Sequence 28 AA:

Query Match 75.7%; Score 112; DB 20; Length 28;
Best Local Similarity 85.7%; Pred. No. 4e-09;
Matches 24; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 RVIRVQACRAIRHIVRIRIGLRRL 28
   ||| ||| ||| ||| ||| ||| |||
DB 1 RVLEVQGAACRAIRHIVRIRIGLRRL 28

RESULT 11
AAU14026
ID AAU14026 standard; peptide; 338 AA.
XX
AC AAU14026;
XX
DT 21-NOV-2001 (first entry)
XX
DE Peptide sequence from HIV-1 isolate BRU enveloped protein gp41.
XX
KW Anti-retroviral; DP178-like; DP107-like; transmembrane protein gp41;
KW antitumorigenic; antiviral; HIV transmission.
XX
OS Human immunodeficiency virus type 1 isolate BRU.
XX
PN WO200151673-A2.
XX
PD 19-JUL-2001.
XX
PF 05-JUL-2000; 2000WO-US35727.
XX
PR 09-JUL-1999; 99US-0350841.
XX
PA (TRIM-) TRIMERIS INC.

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XX
PI Jeffs P, Lackey JW, Erickson JB, Lawless MK, Merutka G;
XX
DR WPI; 2001-442157/47.
XX
PT Identifying a compound that inhibits the formation of or disrupts a
PT DP107/DP178 complex, especially compounds with antitumorigenic, antiviral
PT or intracellular modulatory activity, by detecting the formation of a
PT DP107/DP178 complex -
XX
PS Disclosure; Fig 20; 259pp; English.
XX
CC The present invention relates to peptides which exhibit anti-retroviral
CC activity. The peptides of the invention (AAU12559-AAU14009) comprise
CC DP178-like and DP107-like peptides. The DP178 peptide corresponds
CC to amino acids 639-673 of the transmembrane protein gp41 from human
CC immunodeficiency virus 1 (HIV-1) isolate LAI. The DP107 peptide
CC corresponds to amino acids 558-595 of gp41 from HIV-1LAI. The invention
CC also relates to a method of identifying compounds that inhibit the
CC formation of or disrupts a DP107/DP178 complex. The method comprises
CC detecting the formation of a DP107/DP178 complex, both in the presence
CC or absence of a test compound, in a reaction mixture containing DP107
CC and DP178 peptides. The method is useful for identifying compounds,
CC including small molecule compounds, which may themselves exhibit
CC antitumorigenic, antiviral or intracellular modulatory activity. The
CC DP178-like/DP107-like peptides are useful to inhibit human and non-human
CC retroviral, particularly HIV, transmission to uninfected cells. The
CC present sequence represents a peptide sequence from HIV-1 isolate
CC BRU enveloped protein gp41.
XX
SQ Sequence 338 AA:

Query Match 75.7%; Score 112; DB 22; Length 338;
Best Local Similarity 85.7%; Pred. No. 5e-08;
Matches 24; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 RVIRVQACRAIRHIVRIRIGLRRL 28
   ||| ||| ||| ||| ||| ||| |||
DB 310 RVLEVQGAACRAIRHIVRIRIGLRRL 337

RESULT 12
AAB14536
ID AAB14536 standard; Protein; 345 AA.
XX
AC AAB14536;
XX
DT 24-NOV-2000 (first entry)
XX
DE HIV-1 isolate LAI gp41 protein.
XX
KW HIV-1; gp41; N-helical domain; heptad repeat region; C-helical domain;
KW gp41 transmembrane-proximal amphipathic alpha-helical segment;
KW core 6-helix bundle; viral entry inhibition; immunogenic;
KW antibody; humoral response; broad spectrum vaccine; anti-HIV;
KW envelope glycoprotein; prophylaxis; therapy; group M; subtype B;
KW isolate LAI.
XX
OS Human immunodeficiency virus type 1.
XX
PN WO200040616-A1.
XX
PD 13-JUL-2000.
XX
PF 10-JAN-2000; 2000WO-US00456.
XX
PR 08-JAN-1999; 99US-0115404.
XX
PR 07-JAN-2000; 2000US-0480336.
XX
PA (WILD/) WILD C T.
XX
PA (WEIS/) WEISS C D.
XX

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PI Wild CT, Weiss CD;
XX
DR WPI: 2000-465959/40.
XX
PT Raising neutralizing antibody response to human immunodeficiency virus,
PT comprises administering a polypeptide capable of forming a stable
XX coiled-coil solution structure -
XX
PS Disclosure: Page 22; 97pp; English.

The invention relates to raising a neutralising antibody response to a
CC broad spectrum of HIV (human immunodeficiency virus) strains and
CC isolates, comprising the administration of a peptide which corresponds
CC to or mimics highly conserved portions of the gp41 envelope glycoprotein
CC which are important in mediating the process of viral entry into host
CC cells. Such peptides can correspond to or mimic the coiled coil
CC solution structure of the N-helical domain (the heptad repeat
CC region), or can correspond or mimic the C-helical domain (the
CC transmembrane-proximal amphipathic alpha-helical segment), or the
CC gp1 core 6-helix bundle, which is formed by the interaction of
CC the N- and C-helical domains of three gp41 proteins. The peptides
CC can be administered either singly or as a combination (particularly
CC a combination of N-helical and C-helical peptides), and can be
CC multimerised. For example, N- and C-helical domain peptides can be
CC alternately linked together to form a peptide which mimics the core
CC 6-helix bundle. Administration of the peptide(s) generates a humoral
CC response, with the production of antibodies against gp41 structures
CC involved in viral entry. As these portions of gp41 are well conserved,
CC such antibodies may be effective against a broad range of HIV strains
CC and isolates. The peptide compositions may be administered as a
CC prophylactic or therapeutic vaccine to generate antibodies which reduce
CC or inhibit the ability of HIV to infect uninfected cells. A composition
CC comprising polyclonal or monoclonal antibodies can be administered to
CC reduce HIV infection of uninfected cells. Antibodies raised against
CC entry-relevant gp41 structures may also be used therapeutically and as
CC tools to further elucidate the mechanism of HIV cell entry. The
CC present sequence represents HIV-1 group M, subtype B, isolate LAI
XX gp41 protein.
S0

Sequence 345 AA;

Query Match 75.7%; Score 112; DB 21; Length 345;
Best Local Similarity 85.7%; Pred. No. 5.1e-08;
Matches 24; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

OY 1 RVIRVQRACRAIRIVTRIRGGLRLRIL 28
||| ||| ||||||||| ||||||| |||
Db 317 rvievvggacrairinhprlttgylerll 344

RESULT 13
AAG63863
ID AAG63863 standard; peptide: 345 AA.

AAG63863:
AC
XX
DT 29-OCT-2001 (first entry)
XX
DE Amino acid sequence of a HIV-1 gp41 protein.
XX
KW HIV-1; isolate LAI; gp41; Viral entry; envelope protein; glycoprotein;
RV viral infection; antiviral.
XX
OS Human immunodeficiency virus type 1.
XX
FN WO200159457-A2.
PN
XX
PD 16-DEC-2001.
XX
PE 09-FEB-2001; 2001MO-USO4030.
XX
PR 10-FEB-2000; 2000OUS-0181543.

PR	28-SEP-2000:	2000US-0235901.
XX	(PANA-)	PANACOS PHARM INC.
XX	Wild CT,	Allaway GP;
XX	WPI:	2001-522493/57.
DR		
XX		
PT	Screening for inhibitors of viral entry structure formation by	
PT	selectively triggering the formation of one or more critical entry	
PT	intermediates in cell-surface-expressed viral envelope and probing for	
PT	its formation	
XX		
PS	Disclosure:	Page 28; 68pp: English.
XX		
CC	The present sequence represents a Human immunodeficiency virus type 1	
CC	(HIV-1) group M, subtype B, isolate LAI, gp41 protein. The peptide is	
CC	used to raise antibodies for use in the method of the invention. The	
CC	specification describes a method of screening for inhibitors of viral	
CC	entry structure formation. The method comprises contacting a viral	
CC	envelope protein or glycoprotein (e.g. gp41) with a triggering agent and	
CC	a candidate compound to form a mixture, and measuring the effect that	
CC	the candidate compound has on the formation of conformational	
CC	intermediates. The effect of the candidate compound can be measured by	
CC	antibody binding to these conformational intermediates. The compounds	
CC	identified by the method are useful as inhibitors for inhibiting or	
CC	preventing viral infection and to treat humans infected with HIV-1 or	
CC	other viruses. This antiviral compounds can also be used to inactivate	
CC	viruses in body fluids, e.g. blood or blood compounds used for	
CC	therapeutic purposes. The assay is also useful for detecting antibodies	
CC	in virus-infected individuals or virus-infected body fluids or tissues	
CC	that inhibit entry-relevant conformational changes in one or more viral	
CC	envelope proteins or glycoproteins. The presence of the antibodies in	
CC	infected individuals or samples is of prognostic value.	
XX		
SO	Sequence	345 AA;
Query Match	75.7%;	Score 112; DB 22; Length 345;
Best Local Similarity	85.7%;	Pred. No. 5.1e-08;
Matches	24; Conservative	0; Mismatches 4; Indels 0; Gaps 0;
QY	1 RVIRVQACRAIRHIVRIRGGLRL 28	
DB	317 RVIEVVGACRAIRHPRIRGJERIL 344	
RESULT 14		
AAAR53785		
AAAR53785	standard; Protein:	420 AA.
XX		
AC	AAAR53785;	
XX		
PT	28-DEC-1994 (first entry)	
XX		
DE	Translation of HIV-1 in the region encoding the gp41 polypeptide.	
XX		
KW	Human immunodeficiency virus; HIV-1; AIDS; lentivirus; TM protein;	
KW	extracellular protein; transmembrane protein; gp41.	
XX		
OS	HIV-1.	
XX		
FH	Key	Location/Qualifiers
FT	Protein	43..387
FT		/label= gp41
XX		
PN	WO9412533-A.	
XX		
PD	09-JUN-1994.	
XX		
PF	12-JAN-1993;	93WO-US00212.
XX		
RR	23-NOV-1992;	92US-0979975.

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XX (HARD ) HARVARD COLLEGE.
XX Essex ME, Lee TH, Yu X;
XX WPI; 1994-200197/24.
XX N-PSDB; AA066275.
XX Method for treating HIV patients - comprises administration of
XX mutated gp41 polypeptide
XX Claim 11; Fig 1; 54pp; English.
XX The inventors claim a method of treating a patient infected with HIV
XX by administering a mutated gp41 polypeptide or a therapeutic
XX composition comprising nucleic acid encoding the mutant gp41
XX polypeptide in an expressible genetic construction. The mutant gp41
XX of the following regions of wild type gp41 (AAR53783): AAs 844-856;
XX 814-856; 796-856; 776-856; 753-856; or 710-856, effective to either
XX disrupt viral replication or HIV or disrupt the assembly of viral
XX Env proteins in an HIV infected cell. AA066275-corresp. to bps 7631-
XX 8890 of wt HIV-1. X in the AA sequence represents the posn. of a
XX stop codon in AA066275.
XX Sequence 420 AA:
SQ

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Query Match 75.7%; Score 112; DB 15; Length 420;
Best Local Similarity 85.7%; Pred. No. 6.2e-08;
Matches 24; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

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OY 1 RVIRVORACRAIRHIVRIROGLRLIL 28
    ||| ||| ||| ||| ||| ||| ||| ||| |||
DB 359 RVLEVVGACRAIHPRIIRIGLERIL 386

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RESULT 15

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AAW43066
ID AAW43066 standard; peptide; 853 AA.
XX
AC AAW43066;
XX
DT 11-SEP-1998 (first entry)
XX
DE HIV-1 gp120 protein fragment from isolate HXB2.
XX
KW gp120 protein; purification; fractionation; ion exchange; chromatography;
XX binding affinity; CD4; hydrophobic interaction; size exclusion; vaccine.
XX
OS Human immunodeficiency virus type 1.
XX
PN US5696238-A.
XX
PD 09-DEC-1997.
XX
PF 11-MAY-1995; 95US-0439286.
XX
PR 20-AUG-1991; 91US-0684963.
XX 16-AUG-1993; 93US-0109002.
XX 09-MAY-1994; 94US-0240073.
XX 11-MAY-1995; 95US-0439286.
XX
PA (CHIR ) CHIRON CORP.
XX
PI Haigwood NL, Scandella C;
XX
DR WPI; 1998-041353/04.
XX
PT Purification of HIV gp120 - using chromatographic methods
XX
PS Disclosure; Fig 2A-W; 53pp; English.
XX

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CC AAW43066-M43080 are fragments of the gp120 protein from different human
CC immunodeficiency virus type I (HIV-1) isolates. These proteins are used
CC in a novel method for purifying HIV gp120 so as to provide a purified
CC gp120 glycoprotein having protein/protein binding properties
CC substantially identical to natural viral HIV gp120. The method involves
CC fractionating a crude gp120 preparation containing full-length,
CC glycosylated gp120 using ion exchange chromatography so as to provide a
CC first collection of fractions. A fraction from the first collection is
CC selected that exhibits specific binding affinity for CD4 peptide,
CC thereby producing a first fractionated material. The first fractionated
CC material is fractionated by hydrophobic interaction chromatography so as
CC to provide a second collection of fractions from which a second
CC collection is selected that exhibits specific binding affinity for CD4
CC peptide. This second fraction is fractionated by size exclusion
CC chromatography so as to provide a third collection of fractions
CC exhibiting specific binding affinity for CD4 peptide, thereby providing
CC the purified gp120. The purified gp120 can be used for antibody
CC production and in vaccines.
XX
SQ Sequence 853 AA:

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Query Match 75.7%; Score 112; DB 19; Length 853;
Best Local Similarity 85.7%; Pred. No. 1.3e-07;
Matches 24; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

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OY 1 RVIRVORACRAIRHIVRIROGLRLIL 28
    ||| ||| ||| ||| ||| ||| ||| ||| |||
DB 825 RVLEVVGACRAIHPRIIRIGLERIL 852

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Search completed: August 14, 2002, 10:50:38
Job time: 344 sec

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